

Army Attack Aviation Returning to the Close Fight: Impact of the MOUT Environment

**A MONOGRAPH
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This paper seeks to answer the question of whether or not the modern threat environment should drive U.S. Army Attack Aviation to shift its focus from the deep fight to the close battle. The paper concludes that the modern threat of asymmetric warfare in urban environments should drive training, doctrine, and aircraft and weapons development to optimize readiness for close air support of ground forces in Military Operations on Urban Terrain (MOUT). This conclusion is based on a historic review of the evolution of U.S. attack helicopters and their employment, an analysis of the modern threat environment which indicates a strong likelihood of fighting in urban environments, a review of existing aviation doctrine for MOUT, and a review of two recent MOUT case studies, Chechnya and Somalia. These two case studies demonstrate that the most effective method of employing attack helicopters in MOUT is as a fire support element in the close fight. This paper argues in closing that U.S. Army Aviation must move quickly to develop clear and effective doctrine and training methods for employing attack helicopters in the close fight. Furthermore, the U.S. Army must develop future aircraft, weapons systems, and munitions to optimize close air support effectiveness and aircraft survivability.

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Preface

Throughout my thirteen year career in the attack helicopter community I have been approached repeatedly by fellow combat arms officers who were concerned about the apparent unwillingness of Army Aviation to develop doctrine and train for close air support missions. They could not understand why the Army's own air branch would be reluctant to directly support soldiers engaged in the close fight. I have always given these officers the party line that attack aviation is a separate maneuver arm of the Army, not a close air support system. Senior commanders should assign attack missions to aviation units that will maximize the mobility, flexibility, and overpowering firepower that attack helicopters bring to the fight.

In the past, the most effective manner of employing attack helicopters has been against massed enemy armor moving on open terrain. The genesis of this paper was my realization that the threat environment has changed significantly since the end of the "Cold War" and the U.S. led coalition victory in Desert Storm. I believe the battlefield of the future is not likely to involve massed enemy armor arrayed in depth in a linear fashion. U.S. forces in the future will face a thinking and adaptive enemy that is likely to fight on restrictive terrain that minimizes U.S. technological superiority. This type of battle often includes brutal and up close fighting. I believe that it is time to Army Aviation to recognize the change in threat and prepare its aviators to train and fight in close support of soldiers in contact on the ground. This means providing close air support.

Abstract

This paper seeks to answer the question of whether or not the modern threat environment should drive U.S. Army Attack Aviation to shift its focus from the deep fight to the close battle. The paper concludes that the modern threat of asymmetric warfare in urban environments should drive training, doctrine, and aircraft and weapons development to optimize readiness for close air support of ground forces in Military Operations on Urban Terrain (MOUT).

This conclusion is based on a historic review of the evolution of U.S. attack helicopters and their employment, an analysis of the modern threat environment which indicates a strong likelihood of fighting in urban environments, a review of existing aviation doctrine for MOUT, and a review of two recent MOUT case studies, Chechnya and Somalia. These two case studies demonstrate that the most effective method of employing attack helicopters in MOUT is as a fire support element in the close fight.

This paper argues in closing that U.S. Army Aviation must move quickly to develop clear and effective doctrine and training methods for employing attack helicopters in the close fight. Furthermore, the U.S. Army must develop future aircraft, weapons systems, and munitions to optimize close air support effectiveness and aircraft survivability.

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INTRODUCTION

Army Attack Aviation doctrine, training, and aircraft procurement have always been based on a careful analysis of the Army's most current and significant threat. Since its inception, Army Aviation has seen its mission change dramatically based on the changing threats in the world and the changing needs of the Army to meet those threats.

When the U.S. Army Air Corps became the U.S. Air Force and began to shift its focus from Close Air Support (CAS)¹ to strategic bombing; the Army was deeply concerned about the loss of support. Army officers struggled to find a way to fill the gap left by the Air Force without challenging the Air Force's primacy in the air. Out of desperation they turned to the underdeveloped technology of helicopters. In the Korean War rotary winged aircraft were limited in capability and could do very little to solve the problem, but during the Vietnam War helicopters made significant advancements. The Army quickly developed attack helicopters that could provide the firepower and mobility the newly developed airmobile infantry so desperately needed. Initially formed in aerial rocket artillery battalions, attack helicopters proved extremely effective in providing fire support in close proximity to friendly troops. After Vietnam the U.S. Army's primary focus shifted to the massive Soviet Army in Europe.²

¹ Department of the Army, *Field Manual 101-5-1, Operational Terms and Graphics* (Washington D.C: U.S. Government Printing Office, Sep 1997), 1-28. **close air support (CAS)** (JP 1-02) — Air action by fixed- and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces.

² Paul H. Herbert, "Deciding What Has to Be Done: General William E. DePuy and the 1976 edition of FM 100-5, Operations," *Leavenworth Papers*, Number 16 vols. (Fort Leavenworth, KS: Combat Studies Institute, 1988), 5.

Grossly outnumbered in tanks, armored personnel carriers, and artillery, the U.S. Army sought to modernize its primary weapons systems to achieve a qualitative advantage they hoped would compensate for the Soviet quantitative superiority. Additionally, the Army developed doctrine they hoped would allow them to “fight outnumbered and win” on the plains of Europe. War games eventually highlighted a problem with the new doctrine. The Army could deal with the Soviet first echelon but then would have very little combat power remaining to face follow on echelons. The Army realized they would have to engage the Soviets throughout the depth of their formations to broaden gaps between the echelons. These gaps would disrupt the enemy movement and allow U.S. forces time to recover from the first echelon battle.³ The deficiency in this solution was that the Army did not have any systems that could effectively attack in depth. This would leave the Army once again in the unenviable position of relying entirely on the Air Force for critical support. Once more the Army turned to attack helicopters for a solution. The Army developed the AH-64 Apache. The Apache was designed and built, unlike its predecessors, as a pure tank killing machine that was capable of deep attacks under cover of darkness. The deep attack mission dominated attack aviation training and doctrine throughout the remainder of the “Cold War” and resulted in a dramatic shift away from the close fight for Army Aviation.

The fall of the Soviet Union and the U.S. military’s victory in the Gulf War significantly changed the threat environment for the near future. There are few countries that can afford to field, train, and maintain significant armored forces and most of those countries are allies of the United States. Modern threats to the United States are more

³ John L. Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine 1973-1982* (Fort Monroe, VA: Historical Office, United States Army Training and Doctrine Command,

likely to present themselves in smaller dispersed units operating in urban or other restricted terrain. The rapid urbanization of the world indicates that military operations on urban terrain (MOUT) are very likely to be a significant part of future conflicts. The U.S. Army is undergoing a major transformation to meet the challenges of the future. The force is getting smaller, lighter, and more deployable. This new mobile medium weight force will be more vulnerable than heavy forces and will require highly mobile fire support for protection and increased combat power. As the U.S. Army struggles with another dramatic change in threat, doctrine and structure, will they turn to Army Aviation for fire support in the close operations⁴, or will attack helicopters continue to focus on deliberate attacks of armor formations that may never again exist? It seems clear from the history of Army Aviation that they will be called upon to adapt to the new challenges and develop doctrine, training, and aircraft for the close battle urban fights that loom on the horizon.

An analysis of two recent case studies in modern urban conflict (Somalia and Chechnya) reveals that attack helicopters are superbly suited for close air support in the MOUT environment. Attack helicopters have the flexibility, precision, firepower and responsiveness that ground combat forces desperately need to move through a hostile city. Additionally, the survivability of aircraft in the city is significantly increased when they operate over terrain that is held by friendly forces. The air and ground have a mutually beneficial symbiotic relationship. These facts indicate that, in addition to

June, 1984), 25-27.

⁴ Department of the Army, *Field Manual 101-5-1, Operational Terms and Graphics* (Washington D.C: U.S. Government Printing Office, Sep 1997), 1-28. **Close operations** - Involves forces in immediate contact with the enemy and the fighting between the committed forces and the readily available tactical reserves of both combatants.

retaining an independent maneuver capability, Army Attack Aviation should and will return to its roots as a close air support system.

HISTORICAL REVIEW – WHY THE ARMY DEVELOPED ATTACK HELICOPTERS

The Early Days

The United States Army Aviation Center and School considers June 6, 1942, the day the War Department authorized light airplanes to artillery battalions, to be the official birthday of Army Aviation.⁵ In fact, U.S. Army Aviation heritage dates back to the 1860s and Professor Thaddeus S.C. Lowe, a balloon enthusiast that convinced President Lincoln that balloons could be an effective means of reconnaissance on the battlefield. Early in the American Civil War, Secretary of War, Edwin M. Stanton directed the formation of the Balloon Corps and Army Aviation was modestly born.⁶ The next significant advance came on December 17, 1903 when the Wright brothers flew their airplane at Kitty Hawk on the outer banks of North Carolina. It did not take long for the Army to take notice of this promising new machine. In August 1907 Brig Gen James Allen, Chief of Signal Corps established the Aeronautical division of the Signal Corps.⁷ Airplane technologies advanced very quickly and by the First World War airplanes were a significant combat multiplier.

The first rotary wing flight took place in 1907 when Paul Cornu, a Frenchman, managed to get his "flying bicycle" off the ground for a short but notable flight. Cornu had a very imperfect understanding of the aerodynamic and physical forces affecting rotary winged flight. He failed to compensate for rotor induced torque which rendered the

⁵ James W. Bradin, *From Hot Air to Hellfire: Army Attack Aviation* (Presidio: Presidio Press, 1994), 61.

⁶ Richard P. Jr. Weinert, *A History of Army Aviation - 1950-1962*, ED. Canedy, Susan (Fort Monroe, Va: Office of the Command Historian, United States Training and Doctrine Command, 1991). 1.

⁷ William E. Butterworth, *Flying Army: The Modern Air Arm of the U.S. Army* (Garden City, New York: Doubleday & Company, 1971). 19.

craft virtually uncontrollable.⁸ For many years to come the helicopter would lag behind the airplane in advancement because of extreme technical difficulties and the required design complexity.

In 1919 aircraft designer Igor Sikorski arrived in the U.S. after fleeing Marxist Russia. He founded the Sikorski Aero Engineering Corporation and began to tackle the problems of rotary wing flight. The Army first noticed his work in the 1920s, however, it was not until he flew his V-300 in 1941 that the Army showed serious interest. By the summer of 1942 Sikorski's design had mastered most of the complex problems of rotary wing flight.⁹ Sikorski himself said, "It would be right to state that in the summer of 1942, the helicopter became a reality in the United States. From then on, it became a question of improving the details."¹⁰ Improving the details would prove to be a long process. Sikorski personally delivered the Army's first helicopter, an XR-4, in April of 1942.

During WWII the helicopter was considered an unreliable and unproven technology and ultimately, the U.S. Army purchased only 300.¹¹ The Japanese, Germans, and the British also experimented with helicopters but none of these aircraft saw extensive combat duty. The progress of helicopters had been painfully slow compared to the advancement of fixed wing considering that the first rotary wing flight was only four years after the Wright brothers' flight.¹²

⁸ Bradin, *From Hot Air to Hellfire*, 57.

⁹ Butterworth, *Flying Army*, 29.

¹⁰ Butterworth, *Flying Army*, 49.

¹¹ Bradin, *From Hot Air to Hellfire*, 57, 58.

¹² John Everett-Heath, *Helicopters in Combat: The First Fifty Years* (New York: Arms and Armour, 1992), 14.

The airplane had emerged as one of the most significant military platforms on the modern battlefield. The Second World War saw airplanes used for everything from Strategic bombing and aerial attack to aerial reconnaissance and fleet protection. At the outset of WWII American airmen were in agreement with the Italian Giulio Douhet and the British airpower theorists of the day.¹³ Douhet argued that the air arm was revolutionary in nature not evolutionary. He saw aircraft as the ultimate offensive weapon and he believed airpower was the most significant element of modern warfare.¹⁴ The British further emphasized the importance of strategic bombing over everything else.¹⁵ By the end of the Second World War it was clear that the third dimension of conflict, the air, was at least equally important to the land and sea. It was increasingly difficult, if not impossible, to win on the land or sea if one did not at least maintain air parity.

Throughout WWII, control of air assets remained with air commanders. This was unpopular with ground commanders such as General Patton in North Africa who felt he was not getting the support he needed. These commanders felt that the Army was being “orphaned” by the Air Force.¹⁶ This was the beginning of a struggle over close air support that eventually would result in the Army developing attack helicopters.

From WWII Through Korea – The need for CAS

The end of World War II brought significant changes in the structure of the U.S. military. The advent of nuclear weapons and the emergence of airpower resulted in a significant shift in American defense priorities. In 1947 Congress passed the National

¹³ Bradin, *From Hot Air to Hellfire*, 67-70.

¹⁴ Giulio Douhet, *The Command of the Air* (1921), 32.

¹⁵ Bradin, *From Hot Air to Hellfire*, 67-70.

Defense Act creating a separate Air Force with equal status to the Army and Navy.¹⁷ The National Defense Act gave primary responsibility for the air to the newly created Air Force. The Army lost most of its dedicated air assets and the struggle for air support took on a new significance. The Army was allowed to maintain its rotary wing fleet and a few fixed wing aircraft with certain restrictions. Helicopters were not to exceed 4000lbs and their roles were restricted to observation, route recon, liaison, aerial photography and limited resupply within the combat zone.¹⁸

The National Defense Act of 1947 and the subsequent Key West Agreement signed on April 21, 1948 set forth clear obligations for both the Army and the Air Force regarding aircraft. For the Air Force the mandate was to, "furnish close combat and logistical air support to the Army, to include airlift, support, and resupply of airborne operations, aerial photography, tactical reconnaissance, and interdiction of enemy land power and communications." Army Aviation's role was spelled out as, "expediting and facilitating the conduct of operations on land; improving mobility, command, control, and logistics support of Army Forces; and facilitating greater battlefield dispersion and maneuverability under conditions of atomic warfare." Army leaders saw the Key West agreement as providing a loophole that allowed them to fill the voids created by a lack of Air Force support.¹⁹

From WWII through Korea and on into the 1960s the Air Force leadership considered itself exclusively responsible for the close air support of Army troops. Air Force control of all CAS weapons was sanctioned by high-level civilian policy makers

¹⁶ Bradin, *From Hot Air to Hellfire*, 67-70.

¹⁷ Everett-Heath, *Helicopters in Combat*, 16.

¹⁸ Everett-Heath, *Helicopters in Combat*, 16.

¹⁹ Bradin, *From Hot Air to Hellfire*, 75.

and accepted by much of the Army leadership as well. After gaining its autonomy, the Air Force continually stressed bigger, higher flying, longer range, faster aircraft. This passion for speed is significant in that it focused the attention of the Air Force away from helicopters and other low/slow aircraft in favor of big bombers and fast air superiority fighters. This pushed the Air Force further away from the close fight.²⁰ The organizational struggle for control of CAS was fueled by the distrust some Army officers had of the Air Force's intentions to actually provide the support needed.²¹ The Air Force was "above it all" in the eyes of the Army. They had abandoned the battlefield in favor of the "wild blue yonder," leaving the Army naked and unsupported.²²

Throughout the Korean Conflict, there was disagreement as to the effectiveness of Air Force support of the Army. The Army accused the Air Force of deserting it while the Air Force contended that the Army was encroaching on Air Force autonomy over air power.²³ Whatever the truth, the Army exited the Korean Conflict more determined than ever to secure its own means of providing close air support. This was a clear violation of existing agreements but the Army was not willing to sacrifice air support simply because the Air Force did not see CAS as a priority.

While the National Defense Act of 1947 stripped the Army of most of its fixed winged aircraft, it proved to be a windfall for helicopter development. As the Air Force pursued its love of anything fast and/or nuclear, the Army stepped up its research in rotary wing and small aircraft.²⁴ During the Korean Conflict the Army made significant

²⁰ Fredric A. Bergerson, *The Army Gets an Air Force: Tactics of Insurgent Bureaucratic Politics* (Baltimore: The Johns Hopkins University Press, 1980), 63.

²¹ Bergerson, *The Army Gets an Air Force*, 5.

²² Bergerson, *The Army Gets an Air Force*, 63.

²³ Bergerson, *The Army Gets an Air Force*, 53.

²⁴ Bradin, *From Hot Air to Hellfire*, 61.

advancements in its helicopter fleet and helicopter became an essential piece of military hardware. The success of the helicopter in the casualty evacuation role tended to obscure its potential as an attack platform. With 600 helicopters deployed, more than 23,000 casualties were evacuated.²⁵ The Army wanted to significantly expand its helicopter fleet but the Air Force (acting as purchasing agent for the Army) stubbornly resisted.²⁶ By 1953 when the truce in Korea was signed the Army fully realized the potential of the helicopter and they broke free from the Air Force and began buying their own helicopters. This helicopter force would be the basis for the U.S. fight in Vietnam.²⁷

After the Korean Conflict, President Eisenhower subscribed to the doctrine of massive retaliation to deal with nuclear age warfare. He believed that the roles of military organizations, especially the Army, had been irrevocably changed. He believed that air power, strategic air power in particular, was the key to deterrence. The bombers of Strategic Air Command (SAC) were the preeminent arm of the American military.²⁸ Eisenhower did not believe that major military operations such as seen in WWII were likely to occur again in the future. Thus, the role and the prestige of the Army were in question. The Air Force did not focus its attention on CAS systems because support of the Army was not important.²⁹

In an effort to remain relevant, the Army spent billions on developing a nuclear arsenal. Ironically, after building these weapons, thinking officers began to realize that they could serve no purpose other than to deter Soviet use of their own tactical nuclear

²⁵ Everett-Heath, *Helicopters in Combat*, 18.

²⁶ Bradin, *From Hot Air to Hellfire*, 77.

²⁷ Weinert, *A History of Army Aviation - 1950-1962*. 39-41.

²⁸ A.J. Bacevich, *The Pentomic Era, The U.S. Army between Korea and Vietnam* (Washington, D.C.: National Defence University Press, 1986), 15.

²⁹ Bacevich, *The Pentomic Era*, 16.

capability. This led to the realization that the Army would have to be ready to fight in conventional ways. Such ideas put the Army in direct conflict with the administration's policies that relied on nuclear weapons as an absolute deterrent to war. The Pentomic organization of the Army was not at all well suited for the conventional war that was destined to come.³⁰ The Army abandoned the Pentomic design and began experimenting with new structures that would better prepare the force for a conventional land war. American involvement in Vietnam would soon illustrate that the Army had been right to reform.

Arming Helicopters and the Birth of Army Attack Aviation

In 1942 the Army conducted the first test of firing a 20 MM cannon from the nose of a helicopter. The experiment died due to limited success and lack of enthusiasm. Three years later a similar test with a 70mm recoilless rifle was conducted at Fort Bragg. The resulting damage to the helicopter was disheartening to supporters of armed helicopters.³¹ Helicopter technology had not advanced enough to support weapons systems. After the Korean War the Army again attempted to arm their helicopters. Army Aviation proponents argued with conviction that since the Air Force was disinterested, the Army would have to develop its own close air support.³²

In the mid 1950s, Maj. Gen. James M. Gavin led a concerted American effort to develop doctrine, tactics techniques and procedures (TTPs) and theory on the employment of helicopters

³⁰ Bacevich, *The Pentomic Era*, 140.

³¹ Bradin, *From Hot Air to Hellfire*, 60.

³² Bradin, *From Hot Air to Hellfire*, 93, 94.

in warfare. He wrote an article in the April 1954 edition of Harper's Magazine entitled, "Cavalry, and I don't Mean Horses!" in which he analyzed some aspects of the Korean War. He wrote, 'Where was the cavalry? ... And I don't mean horses. I mean helicopters and light aircraft, to lift soldiers armed with automatic weapons and hand carried light anti-tank weapons, and also lightweight recon vehicles, mounting anti-tank weapons the equal or better to the Russian T-34s...If ever in the history of our armed forces there was a need for the cavalry arm - airlifted in light planes, helicopters and assault aircraft - this was it.'³³

In 1953 the U.S. Army started its first aviation school at Fort Sill, OK. It cited the failure of the Air Force to train pilots and maintainers on the skills needed to live and operate in the field near Army troops as the reason for running an Army school. The school moved to Camp Rucker, AL. in 1954 because Fort Sill was too small for the Artillery and Aviation Schools.³⁴ Brig. General Carl I. Hutton, commander of the new aviation school, would come to be known as the "Father of attack helicopters."³⁵ He was dissatisfied with the slow development of Army Aviation. He appreciated aviation's strength in mobility, but he felt firepower was equally important and wanted helicopters that could provide both.

Using a 1956 training directive to develop concepts and organizations for mobile task force operations as an excuse, Gen. Hutton championed the development of aerial fighting platforms. Aware of the growing Warsaw Pact tank threat, he felt that attack helicopters could provide the best counter. General Hutton believed that attack helicopters could fill the void in close air support while avoiding the prohibition placed

³³ Everett-Heath, *Helicopters in Combat*, 23.

³⁴ Weinert, *A History of Army Aviation - 1950-1962*. 100.

on the Army from arming airplanes. In addition to close support, the Army needed immediate support that the Air Force was often not prepared to give.³⁶ Once again, the helicopter seemed the ideal platform to fill the Army's needs.

In 1957 Col Jay Vanderpool, Chief Combat Developments for the Aviation School, formed a small team that conducted numerous tests in arming helicopters. They enlisted the help of helicopter manufacturers for the first time. They faced resistance from inside and outside the Army. An unexpected boost to the development came when President John F. Kennedy and Secretary of Defense Robert S. McNamara witnessed one of Vanderpool's demonstrations. The president praised the Army's innovations and said they ought to have more "gunships." This comment ended all opposition.³⁷ In March 1957, as the result of work accomplished by Vanderpool's team, the chief of Ordnance was ordered to develop machine gun installation kits for H-13, H-21, and H-34 helicopters. American industry took this as a cue to put their minds to the task of arming helicopters.³⁸

In 1958 the U.S. Army experimented with French SS-10 anti tank missiles on the OH-13 helicopter. The experiment was not successful, but it did serve to drive the Army towards the development of a larger, more powerful helicopters for the anti-tank role.³⁹

The Army Aircraft Requirements Board, chaired by LT. Gen. Gordon B. Rogers, convened in January of 1960. The Rogers board made the fortuitous recommendation that the Army should purchase the Bell UH-1 "Huey" helicopter. The UH-1 would change the Army and is arguably the most important aircraft the Army ever owned with

³⁵ Bradin, *From Hot Air to Hellfire*, 94

³⁶ Bradin, *From Hot Air to Hellfire*, 94, 94.

³⁷ Bradin, *From Hot Air to Hellfire*, 97-98.

³⁸ Weinert, *A History of Army Aviation - 1950-1962*. 164-165.

many still flying today. The Huey was an "off the shelf" purchase, which saved the Army the wearisome, time consuming, and expensive processes of development and acquisition.⁴⁰

In 1962 Vanderpool's test unit was renamed Troop D (air), 17th Cavalry. This unit became the base for the activation of the 3rd Squadron, 17th Cavalry and eventually the 1st Squadron, 9th Cavalry in the 1st Cavalry Division in Vietnam.⁴¹

In April 1962, Secretary McNamara ordered the Army to take a bold new look at maneuver warfare. He wanted experiments designed to test new ideas using scientifically objective methods. To comply, the Army created the United States Army Tactical Mobility Requirements Board headed by Lt. Gen. Hamilton H. Howze, Commander of XVIII Airborne Corps. The Howze board was given only five months to make recommendations for equipment and organization of Army units in the years 1963-1975.⁴²

After soliciting ideas from across the Army, the Howze Board ultimately recommended that the U.S. Army should arm the OV-1 Mohawk (twin engine fixed wing) to fill the void in close air support (CAS). This was in direct violation of the Army's agreement with the Air Force not to arm fixed wing aircraft and did not garner support. The Howze board suggestion did, however, finally force the Air Force to give some attention to the CAS problem.⁴³

The Howze Board further recommended the replacement of some conventional forces with airmobile forces. Specifically, they wanted to create five air assault divisions,

³⁹ Weinert, *A History of Army Aviation - 1950-1962*. 167-168.

⁴⁰ Weinert, *A History of Army Aviation - 1950-1962*. 115-119.

⁴¹ Bradin, *From Hot Air to Hellfire*, 97-98, 98.

⁴² Bradin, *From Hot Air to Hellfire*, 108.

three air cavalry combat brigades, and five air transport brigades over a period of six years. The air assault division would include 144 attack helicopters to be used for reconnaissance and to fight rear guard missions to delay an enemy advance. During the 1963-64 trials, it was apparent that air mobility had the potential to radically influence the conduct of land battle. Airmobile units offered the added benefit that, under the threat of nuclear engagement, they could disperse widely and concentrate quickly.

The Howze board trials were focused on the fight against the Soviets in Europe. By early 1965 it was clear that the more immediate threats in Vietnam would have to take precedence.⁴⁴

Vietnam – The Army Gets CAS Aircraft

During the early days of American involvement in the Vietnam War, the vastness of South Vietnam and the shortage of artillery and tactical air support proved to be a serious shortcoming for the new airmobile operations. When TAC air support was available it was often ineffective due to the lack of joint training. Likewise, fighter aircraft, even the slower WWII aircraft, lacked the accuracy needed for landing zone suppression. The need for heavily armed escort helicopters to protect the troop carrying helicopters soon became apparent.⁴⁵

On July 25, 1962, the Army activated its first armed helicopter company in Okinawa. Other units had armed themselves, but this was the first unit designed from the start as an armed helicopter company. Known as the Utility Tactical Transport Company (UTT), they were equipped with the UH-1B version of the Huey. CWO Clarence J.

⁴³ Butterworth, *Flying Army*. 95-97

⁴⁴ Everett-Heath, *Helicopters in Combat*, 158, 158

⁴⁵ Bradin, *From Hot Air to Hellfire*, 113.

Carter, formerly a member of Vanderpool's team at Fort Rucker, worked with CWO Clem Womack to arm the UTT helicopters. They had the M6 quad machine gun kits and they developed seven shot rocket launchers for 2.75 inch folding fin aerial rockets (FFAR).⁴⁶ By October of 1962 these helicopters were engaging the enemy in Vietnam. The UH-1B's were underpowered for the loads they had to carry. They had difficulty keeping up with the UH-1C utility lift helicopters, which could fly 10 knots faster. The Army quickly realized that they needed an attack helicopter that was fast enough and packed enough punch to serve as a fire support platform for airmobile operations.⁴⁷

Cyrus Vance, then secretary of the Army, wanted an attack helicopter that could travel at 200 knts. This represented a giant technological leap forward and required a very long development process for a totally new airframe. This long process would not answer the immediate needs in Vietnam. In June 1963 the Army announced its intent to build the Advanced Aerial Fire Support System (AAFSS), later named Cheyenne. The contract was awarded to Lockheed over Sikorsky in spite of a complete lack of helicopter experience because of their heavy experience with armed aircraft. The first prototype rolled out on May 3, 1967. The concept was bold and complex. It could attain speeds of 256 miles per hour and had an integrated fire control system that could engage two targets at once. It was armed with either a 7.62 machine gun or a 40 mm grenade launcher in the nose. There was a 30 mm cannon in a belly turret under the copilot's station. The underside of each cantilevered wing had three pylons capable of carrying a 2000 lb. load. The complexity of the design made it

⁴⁶ Bradin, *From Hot Air to Hellfire*, 113, 113.

⁴⁷ Bradin, *From Hot Air to Hellfire*, 113, 114.

expensive and difficult to perfect. The program was bogged down with technical and bureaucratic problems from its earliest days.⁴⁸

While the Cheyenne program stalled, the war in Vietnam raged on and the need for a pure attack helicopter to perform close air support for airmobile operations was increasingly clear. Believing that the Cheyenne program would not produce the solution that the Army needed in a timely manner, Bell helicopter moved forward at their own expense to develop their own gunship. In December of 1964, Bell president E.J. Ducayet approved the design of the Bell model 209, a Huey based gunship. The Bell 209 flew for the first time in September of 1965. It was capable of speeds of up to 174 knots. Gen. Westmorland, commander of American forces in Vietnam, specified that an interim attack helicopter would need to go at least 150 knots.⁴⁹

The Cobra competed in a "fly-off" at Edwards Air Force Base in California in November of 1965 with Sikorsky's model S-61 Sea King, and Kaman's UH-2 Seasprite. In March 1965 after weapons testing at Fort Sill the Army announced its decision to procure the Cobra. The first straight line production Cobra rolled out in October of 1966 and entered combat in Vietnam on October 9, 1967. The Cobra had no tank killing capability. The fielding of the Cobra met the immediate needs of the Army and dealt a mortal wound to the Cheyenne program.⁵⁰

The Air Force did not like the Cheyenne because it stood as a symbol to the fact that they were not fulfilling their close air support responsibilities. They began their first close air support aircraft development program and came up with the A-10 Warthog. On

⁴⁸ Bradin, *From Hot Air to Hellfire*, 115, 116-117.

⁴⁹ Bradin, *From Hot Air to Hellfire*, 119.

⁵⁰ Bradin, *From Hot Air to Hellfire*, 122.

August 9, 1972 the Cheyenne lost a funding war to the A-10 since the Army already had the Cobra. The decision to cancel the Cheyenne program was fortuitous in the long run for the Army. With the war in Vietnam drawing down, the Army's focus would soon return to Europe. The Cheyenne, designed for "diving fire" engagements at close range in a low air defense threat environment, was not the right aircraft for the European battlefield.⁵¹

Attack helicopters in Vietnam existed for one primary purpose, close air support. The forerunner of the attack helicopter battalion was in fact known as aerial rocket artillery. Three batteries of twelve aircraft each made up the aerial rocket artillery battalion organic to the divisional artillery of an airmobile division. According to an Army study on air mobility in Vietnam, "aerial rocket artillery was so effective in the 1st Cavalry Division that the artillery commanders had to constantly remind the infantry to use tube artillery when appropriate rather than call automatically for aerial rocket artillery support."⁵² Throughout the war a close bond was formed between Infantry units and the air units that provided them fire support. Ground and air units developed and refined standard operating procedures (SOPs) and coordination measures to improve command and control between the two elements, improve support, and reduce potential fratricides.⁵³ Units with assigned attack helicopters, such as the 1st Cavalry Division (Airmobile) had average response times of twelve minutes with more than fifty percent of the response times averaging ten minutes or less.⁵⁴ Some accounts indicate that crews aimed to put their rocket fire within 65 meters of their own troops and within 35 meters

⁵¹ Bergerson, *The Army Gets an Air Force*. 122-123.

⁵² John J. Tolson, *Airmobility, 1961-1971* (Washington D.C.: Department of the Army, 1973), 122.

⁵³ Tolson, *Airmobility*, 122.

in emergencies.⁵⁵ This kind of responsiveness and accurate close-in fire could not be matched by the Air Force.

Vietnam proved that attack helicopters were survivable and effective in the close fight. Survivability statistics indicate that with a max of 2600 helicopters in country, one helicopter was hit by enemy fire for every 1,147 sorties flown. One helicopter was shot down per 13,461 sorties flown, and one aircraft was actually lost every 21,194 sorties. The helicopter was not as frail as many had believed⁵⁶

⁵⁴ Bergerson, *The Army Gets an Air Force*, 126.

⁵⁵ Everett-Heath, *Helicopters in Combat*, Photo Page.

⁵⁶ Everett-Heath, *Helicopters in Combat*, 85, 87.

ATTACK AVIATION MOVES AWAY FROM THE CLOSE FIGHT

Post Vietnam – The Army’s Focus Shifts to Europe

The 1970s were a difficult time of change and critical challenges for the U.S. Army.⁵⁷ The Vietnam War had been a traumatic experience for the U.S. Army. When the war ended in 1973 many officers and soldiers were anxious to put it all behind them. Racial tensions, drug abuse, and declining discipline made the Army the subject of constant criticism. The Seventh Army in Europe, the Army's highest priority unit, was at the lowest state of readiness in its history due to the individual replacement system which had taken soldiers out of Europe to fill positions in Vietnam.⁵⁸

One of the great visionaries that put the U.S. Army back on the road to recovery from the Vietnam War was the first commander of the Training and Doctrine Command (TRADOC), Gen. William E. DePuy. He pointed the Army toward a structure designed to meet the challenges presented by the ever strengthening Warsaw Pact. Gen. DePuy took command in July of 1973 and immediately began focusing on tactics and training reforms in line with the lessons of the Arab-Israeli War of October 1973. He directed the pace, shape, and direction of doctrinal change in the 1970s. It was Gen DePuy’s focus on positive reform that guided the Army out of the Vietnam War and toward a brighter future.⁵⁹

In the wake of the Arab Israeli War of Oct 1973, the U.S. conducted a major reassessment of strategic policy with profound implications for the Army. The strategic focus was back to the defense of Europe. The Soviets had made huge strides in improving

⁵⁷ Romjue, *From Active Defense to AirLand Battle*, 1.

conventional and nuclear forces. They had added five tank divisions to their forces facing NATO since 1965 and they had increased the number of tanks in their motorized rifle divisions. They had replaced the old T-54 and T-55 tanks with significantly improved T-63 tanks and the modern T-72 tank. They rounded out their force with significantly better armored personnel carriers and self propelled artillery. More threatening than the equipment itself was the forward deployment of these forces along NATO borders. This indicated that the Soviets were preparing for a preemptive, nonnuclear strategy of conventional attacks that could overwhelm U.S. and NATO forces.⁶⁰

To many observers, inside and outside the Department of Defense (DOD), the U.S. Army was in no condition to challenge this revitalized threat. The Army suffered morale, discipline, equipment, doctrine, and structure problems. Training had been based on the infantry intensive counter insurgency war fought in Vietnam. Combat experience the Army had gained in Vietnam would likely be irrelevant to war in Europe where U.S. forces would not have the overwhelming advantages of firepower and air power that they had enjoyed in Vietnam. Even the Army's significant developments in air mobility had occurred in the absence of a significant enemy air defense capability. Soviet advances in air defense missiles, radars, and guns brought into question the feasibility of large scale airmobile tactics. The Army's combat development efforts (including attack helicopters) had been driven by the Vietnam War and were only coincidentally relevant to war in Europe.⁶¹

⁵⁸ Herbert, "Deciding What Has to Be Done", 5.

⁵⁹ Romjue, *From Active Defense to AirLand Battle*, 2

⁶⁰ Herbert, "Deciding What Has to Be Done", 5-7.

⁶¹ Herbert, "Deciding What Has to Be Done", 5-7.

The Arab Israeli War was a wake-up call for the U.S. Army. It served as a potent example for those in the Army who were trying to change the way the Army thought about modern warfare.⁶² The Arab Israeli War demonstrated to TRADOC's analysts that advances in the weapons lethality, use of suppressive fire, terrain, and camouflage, and effective combined arms coordination had changed the modern battlefield. The tank seemed the dominant force on the battlefield, but the importance of anti-tank and air defense missiles was also highlighted.⁶³ TRADOC concluded that in a high intensity war characterized by highly lethal anti-tank and anti aircraft weapons certain things will be critical:

- Detecting enemy forces at maximum range
- Firing first and firing accurately
- Effective fire control/distribution to conserve ammunition
- Delivering suppressive fires from overwatch
- **Flying Army aircraft at nap of earth (NOE) altitudes or as close to the ground as possible to use terrain and vegetation as cover and concealment without limiting mobility (due to improved ADA)**
- Destroying enemy ADA
- Fighting with skill at night
- Highly reliable tactical communications
- Flexible, responsive and self-sufficient logistical support⁶⁴

These ideas would drive the Army's development from that point forward. Although attack helicopters were not used in the October War of 1973, Gen. DePuy was saw it as an example of how the Army could apply the lessons of air mobility learned in Vietnam with the emerging technologies of anti-tank helicopters. He said, "the tank killing helicopter... adds a new capability for attack, defense, and delay."⁶⁵

⁶² Herbert, "Deciding What Has to Be Done", 46.

⁶³ Romjue, *From Active Defense to AirLand Battle*, 3.

⁶⁴ Herbert, "Deciding What Has to Be Done", 44.

⁶⁵ Herbert, "Deciding What Has to Be Done", 46.

Gen. DePuy was among the first to realize that we had a problem with the separation of doctrine development and weapons procurement. To Gen. DePuy, linkage of doctrine and procurement was critical in bureaucratic disputes over the budget. By linking a system to the successful employment of a winning doctrine one could significantly strengthen the argument for that weapon system.⁶⁶ The cancellation of the Cheyenne program presented the Army with an opportunity to apply this theory of procurement to its next attack helicopter. The Cobra, the Army's only attack aircraft, was designed to meet the air assault escort and close fire support roles of Vietnam. Neither it nor the Cheyenne had been designed with the anti-tank role in mind. After Vietnam with a shift in threat the Army still had a problem with finding an aerial tank killer.⁶⁷

In April of 1973 the Army named Brig. Gen. Samuel G. Cockerham as the first program manager for the new Advanced Attack Helicopter program.⁶⁸ This helicopter, which would eventually come to be known as the Apache, would be designed specifically to capitalize on the lessons of the Arab Israeli war and the doctrinal concepts championed by Gen DePuy and his followers. The Apache would be a long range tank killer, not a close air support system like its predecessors in Vietnam. The Apache would be capable of flying and fighting at night, engaging from a hover at nap of the earth (NOE) altitudes (increasing survivability) and firing first with precision accuracy. Unfortunately, it took the Army ten years of design and testing before they could field the first Apache.⁶⁹

⁶⁶ Herbert, "Deciding What Has to Be Done", 78.

⁶⁷ Bergerson, *The Army Gets an Air Force*.140.

⁶⁸ Bradin, *From Hot Air to Hellfire*., 139-156, 142.

⁶⁹ Bradin, *From Hot Air to Hellfire*, 142, 155.

In 1976 the Army published Gen. William E. DePuy's version of FM 100-5, *Operations*. This was an attempt to change the thinking of the entire U.S. Army. "The U.S. Army must be prepared to fight outnumbered and win and win the first battle." FM 100-5's emphasis on armored warfare, Soviet Weapons systems, emerging technology, and U.S. numerical inferiority all reflected its deliberate focus on the defense of NATO Europe.⁷⁰ The manual immediately spurred great debate within the officer corps. While some praised its clarity and direct style others questioned the wisdom of its content. The defensive focus of the manual and the heavy emphasis on Europe drew the most criticism. The concept of active defense, which eliminated operational reserves and focused on lateral mobility, was troublesome to many officers.⁷¹ Radical change is rarely met with open arms in any large organization and this is certainly true of the U.S. Army.

The 1976 "DePuy" edition of FM 100-5, *Operations*, spelled out the role of attack helicopters in both the offense and defense. In neither case are attack helicopters considered a close air support system.⁷² It is important to note, however, that this version of FM 100-5 states, "Attack helicopters should operate under the control of engaged brigade or battalion commanders and be committed in relays on a sustained and concentrated basis."⁷³ This indicates an affinity for the Vietnam concept that attack helicopters exist to support the ground commander in contact. This concept would change in future editions of FM 100-5 as the role of Attack helicopters increases in importance and Army Aviation eventually becomes a separate branch within the Army.

⁷⁰ Herbert, "Deciding What Has to Be Done", 7.

⁷¹ Romjue, *From Active Defense to AirLand Battle*, 13-15.

⁷² Department of the Army, *Field Manual 100-5, Operations* (Washington D.C.: U.S. Government Printing Office, 1976), 4-8, 5-9.

⁷³ Department of the Army, *Field Manual 100-5, 1976 edition*, 5-5.

AirLand Battle – Army Attack Aviation and the Deep Fight

Gen Donn A. Starry replaced Gen. DePuy as the TRADOC commander in July 1977. He had been closely involved with Gen. DePuy and the development of the 1976 version of FM 100-5 while serving as the commander of the Armor Center at Fort Knox, KY from 1973 to early 1976.⁷⁴ Gen. Starry had been a strong supporter of the 1976 initiatives. From 1976 through 1977 he served as the V Corps commander in Germany. During this time he tested the active defense concepts and other ideas in the new doctrine. He found some significant problems. Although the doctrine was helpful for organizing battalions, brigades, and even divisions for the initial defensive battle, it did not help Starry defeat enemy follow on echelons. Starry said later, "We tackled the tactical problem forward [but] we kind of brushed aside the operational level considerations, the theater level considerations... what gelled it for me was being a corps commander."⁷⁵ He felt that the active defense was adequate for defeating the first echelon but that inadequate combat power was left to stop the Soviet second echelon.⁷⁶

Gen. Starry tasked his combat developers to solve the problem of fighting in depth and dealing with the second echelon. In 1977 Starry and his planners come up with a new battlefield framework that was much deeper in its physical dimensions. The concern for the second echelon led to the deep battle concept.⁷⁷ The emphasis of corps interdiction plans needed to be on attacking deep echelons early in order to delay, disrupt, or destroy them while simultaneously fighting the assaulting forces of the first echelon.

⁷⁴ Romjue, *From Active Defense to AirLand Battle*, 23.

⁷⁵ Herbert, "Deciding What Has to Be Done", 97.

⁷⁶ Romjue, *From Active Defense to AirLand Battle*, 23.

⁷⁷ Romjue, *From Active Defense to AirLand Battle*, 25-27.

The corps operated against the deep defensive echelons, reserves, reinforcing forces, and interdicted second echelon divisions of first echelon armies.⁷⁸

In 1982 TRADOC published a new version of FM 100-5, *Operations*. The new version adapted the ideas began in Gen. DePuy's edition based on the realities of Gen. Starry's and other officers' experiences. The new doctrine developed the concept of AirLand Battle, introduced in 1976, into the basis for how the U.S. Army would organize and fight in the future. AirLand Battle was based on the concept of striking the enemy throughout the depth of the battlefield, not just his lead echelons. The U.S. Army wanted to throw the enemy off balance by striking from unexpected directions.⁷⁹ Deep attack was not a luxury, but rather a necessity for success on the modern battlefield. The goal of deep attack was to create opportunities for commanders to seize. These opportunities included not only reconstituting the defense, but attack and counterattack as well.⁸⁰ In the 1982 version of FM 100-5 it is stated that, "Deep attack is neither a sideshow nor an unimportant optional activity. It is an inseparable part of a unified plan of operation."⁸¹

Although the new doctrine stressed the importance of fighting throughout the depth of the battlefield, it also recognized that the Army had very limited assets capable of engaging the enemy in depth. The 1982 operations manual noted, "Our primary strike assets for the deep attack are air (meaning Air Force) and artillery."⁸² AirLand battle emphasized unified air and ground operations throughout the theater.⁸³ The attack helicopter was seen as potentially critical to the success of this doctrine. In 1982,

⁷⁸ Romjue, *From Active Defense to AirLand Battle*, 41.

⁷⁹ Department of the Army, *Field Manual 100-5, Operations* (Washington D.C.: U.S. Government Printing Office, 20 August 1982), 2-1.

⁸⁰ Romjue, *From Active Defense to AirLand Battle*, 44.

⁸¹ Department of the Army, *Field Manual 100-5*, 1982 edition, 7-2.

⁸² Department of the Army, *Field Manual 100-5*, 1982 edition, 7-13.

⁸³ Department of the Army, *Field Manual 100-5*, 1982 edition, 7-1.

however, the AH-64 Apache was not ready for production and military planners could only speculate about the new helicopter's impact.

In 1983 two very significant events occurred impacting Army Aviation. First, Aviation became a separate branch within the Army on April 12, 1983.⁸⁴ Secondly, the first production Apache rolled off the assembly line in Mesa, New Mexico immediately becoming the flagship of the newly born branch.⁸⁵ With the AH-64 Apache, the U.S. Army finally had a platform that could solve some of the deep battle problems that Gen. Starry identified.

As technology increased the ability to see deep and fight in depth, the U.S. Army revised its AirLand Battle doctrine in the 1986 version of FM 100-5, which emphasized operational art.⁸⁶ The 1986 version further defined the deep, close, and rear, aspects of the battlefield framework and continued to stress the importance of deep attacks to disrupt enemy momentum and destroy his assets prior to them entering the close fight.⁸⁷

Significantly for Army Aviation, the 1986 operations manual clearly lists Aviation as a separate maneuver arm on the battlefield.⁸⁸ The manual's authors point out that, "In today's Army, while aviation is relegated largely to support of ground maneuver, it increasingly offers opportunities for actual maneuver by air."⁸⁹ This simple quote was all a fledgling branch seeking increased responsibility and importance on the battlefield needed to make the final leap away from the close fight and toward the deep battle where

⁸⁴ Bradin, *From Hot Air to Hellfire*, 61.

⁸⁵ Bradin, *From Hot Air to Hellfire*, 155.

⁸⁶ Department of the Army, *Field Manual 100-5, Operations* (Washington D.C.: U.S. Government Printing Office, June, 1993), v.

⁸⁷ Department of the Army, *Field Manual 100-5, Operations* (Washington D.C.: U.S. Government Printing Office, 05 May 1986), 145.

⁸⁸ Department of the Army, *Field Manual 100-5, 1986 edition*, 145.

⁸⁹ Department of the Army, *Field Manual 100-5, 1986 edition*, 42.

aviation could serve independently as a “maneuver” branch. Army Aviation, like the Air Force before it, was abandoning the close fight for another priority.

Throughout the rest of the Cold War and into Operation Desert Storm, U.S. Army Attack Aviation would develop the tactics, techniques, and procedures required to conduct highly effective deep attacks into high threat environments. That training would pay off at 02:38 on January 17, 1991 When Task Force Normandy began its attack on two Iraqi missile sites. TF Normandy, under the command of LTC Richard A. "Dick" "Commander" Cody, consisted of nine AH-64 Apaches, one UH 60 Black Hawk and four Air Force MH-53J Pave Low helicopters.⁹⁰ The purpose of this mission was to create a safe corridor through the Iraqi air defense system. The attack was a huge success and cleared the way for the beginning of the Allied bombing campaign.⁹¹ Unfortunately for the Iraqi Army, they presented exactly the type of threat that the U.S. Army had trained to fight throughout the Cold War. With a six-week air campaign and a seventy-two hour ground war the U.S. military brought the fourth largest army in the world to its knees. A total of fourteen Apache battalions participated in Desert Storm. Some played decisive roles. Apaches left in their wakes hundreds of burning craters where T-72 tanks had once been.⁹² The visions of Gen DePuy and Gen. Starry had been realized in one of the U.S. Army's finest hours.

⁹⁰ Bradin, *From Hot Air to Hellfire*, 31.

⁹¹ Bradin, *From Hot Air to Hellfire*, 3.

⁹² Bradin, *From Hot Air to Hellfire*, 21, 23.

THE CHANGING THREAT AND ARMY ATTACK AVIATION DOCTRINE

In 1989 the Soviet Union agreed to remove the Berlin Wall, which had been a symbol of the Cold War since its erection in 1961. In 1991 the USSR dissolved, and Russia and the other Soviet republics emerged as independent states. This ended once and for all the Cold War and left the United States as the only remaining “Super Power.”⁹³ In August of 1990, Iraqi forces invaded and occupied Kuwait. U.S. President George Bush vowed that this aggression “would not stand,” but Iraq did not heed the warning. Saddam Hussein, the Iraqi leader, commanded the fourth largest army in the world and foolishly refused to be intimidated by the one remaining super and its coalition partners. The result was the destruction of a large portion of the Iraqi Army and the restoration of international borders.⁹⁴ The world witnessed the devastating effectiveness of the U.S. military under ideal conditions.

Success in warfare tends to bring change. Adversaries are not likely to concede the dominance of one side and simply submit to the will of the strong. The end of the Cold War and the success of the American military in Desert Storm did not bring on an era of absolute peace where nations and non-state actors bend to the wishes and mandates of the United States or even the United Nations. Although adversaries have not attempted to engage the U.S. military in a high intensity conventional war, they have fearlessly engaged the U.S. in ways that limit American advantages. They have

⁹³“Cold War,” *Microsoft® Encarta® Encyclopedia 2000*. © 1993-1999 Microsoft Corporation.

⁹⁴“Gulf War,” *Microsoft® Encarta® Encyclopedia 2000*. © 1993-1999 Microsoft Corporation.

determined where the U.S. military is weakest and engaged them there when the opportunities presented themselves.

In this new threat environment, the U.S. will be wise not to expect that its enemies will fight where the U.S. has all the advantages. The massive American military budget is more than any other country can match in the near future. Potential enemies of the United States will seek to find weaknesses in the U.S. military and exploit them in asymmetric ways. While the U.S. military must maintain its strong conventional heavy force as a deterrent to high intensity large scale war, they must also examine their known weaknesses and prepare to fight under those conditions.

The U.S. Army is not blind to the changes in the threat environment. Just as FM 100-5 was the vehicle for change after the Vietnam War, the U.S. Army has drafted a new operational manual, FM 3-0, *Operations*, based on the challenges of today and tomorrow. This manual correctly summarizes the new threat by stating:

Adversaries will also seek to shape conditions to their advantage by trying to change the nature of the conflict or employing capabilities that they believe difficult for U.S. Forces to counter. They will use complex terrain and urban environments and force dispersal-survival methods as used by the North Vietnamese, Iraqis, and Serbs to offset U.S. advantages. These methods increase targeting difficulties and may waste precision weapons on relatively unimportant assets. Generally, adversaries will seek to operate against US forces through the following concepts:

- Conduct force-oriented operations to cause unacceptable casualties
- Attempt to control the tempo by setting conditions for denying U.S. forced entry operations

- Transition to a defensive framework that avoids decisive battle
- Use terrain and urban areas to disperse mechanized and armored units that will concentrate and disperse as opportunities present themselves. Maneuver forces during periods of reduced exposure to US technology using upgraded camouflage and deception capabilities.
- Form coalitions to limit U.S. operations
- Acquire or modify advanced technology systems to create surprise and limited duration overmatch in specific areas.⁹⁵

The new operational doctrine will eliminate the concept of deep attacks that was so vital to AirLand Battle doctrine. In its place the concept of shaping operations that support decisive operations and can be conducted anywhere within the battlefield framework, deep, close, or rear.⁹⁶ Attack Aviation will be one of the tools available to the division and corps commander to conduct shaping operations.

In addition to the relative absence of massive (Soviet type) armored armies, the potential threat has changed in another significant way. The world's battlefield geography is changing at a staggering rate. Much of the world's population is leaving the countryside for the comforts and opportunities of urban life. This can pose a significant problem for the U.S. Army whose doctrine has traditionally advised isolating and bypassing cities. Field Manual 90-10, *Military Operations on Urban Terrain*, advises, "Built up areas should be attacked only when no other alternative is available."⁹⁷

The U.S. military has recognized the trend toward urbanization and have begun to train and develop better doctrine for the urban environment and built up areas. Joint Publication 3-06, *Joint Doctrine for Urban operations (First Draft)*, is a joint effort to begin dealing with the problem. This manual presents some compelling statistics. In

⁹⁵ Department of the Army, *Field Manual 3-0, Operations (DRAG Edition)* (Washington, D.C.: U.S. Government Printing Office, June, 2000), 1-8.

⁹⁶ Department of the Army, *Field Manual 3-0, Operations (DRAG Edition)*, 4-22.

⁹⁷ Department of the Army, *Field Manual 90-10, Military Operations in Urbanized Terrain* (Washington D.C.: U.S. Government Printing Office, June 1979), 1-12.

1920, only one nation had over 50% of its population residing in cities over 20,000 people. By 1960, 25% of the world's population lived in cities. In 2000, that figure has risen to over 40%, and by 2015 it is estimated that some 60% of the world's people will live in urban areas. Furthermore, in 1950, only three of the top ten cities were in developing countries. In 1993 that number was 17 of the top 25.

In 1970, three cities in Asia contained at least 8 million people. By 2015, Asia will have 17 cities of over 10 million, and five of those will top 20 million residents. In 2015, some 27 cities will have populations in excess of 10 million. Of these, only four are located in North America and Japan. None are in Europe. Eleven are in SW and SE Asia, with seven in the volatile region comprising Pakistan, India, and Bangladesh⁹⁸

This massive increase in urbanization is complicated by a series of characteristics of urban terrain that are unfavorable to the U.S. military. They include:

- Cities reduce the advantages of the technologically superior force
- Ground operations are manpower intensive and produce high casualties (including civilians)
- Physical terrain changes the effects of weapons and munitions (very significant for attack helicopters)
- Operations in urban terrain have more constraints than operations elsewhere (due to noncombatants, cultural and religious areas, critical infrastructure)
- Effectiveness of ROE is directly related to friendly casualties - bottom line is that soldiers in peril are less likely to be picky about who they shoot
- Increased logistical burden (high ammo expenditure, med supplies, casualty evacuation, clothing and equipment damaged at higher rates)⁹⁹

When these facts are coupled with the 1976 FM 100-5 admission that, "The whole subject of combat in built up areas is one in which the U.S. Army is not well versed,"¹⁰⁰ it is clear that a thinking enemy will seek to draw the U.S. Army into an urban environment. Conventional case studies reveal that relatively unsophisticated enemies

⁹⁸ Department of Defense, *Joint Publication 3-06, Joint Doctrine for Urban Operations (First Draft)* (Washington D.C.: U.S. Government Printing Office, May, 2000), I-3.

⁹⁹ Department of Defense, *Joint Publication 3-06*, I-11,14.

can be successful against powerful and well equipped armies when the fight is conducted in urbanized terrain.

The question for Army Attack Aviation is not whether or not they will be expected to adapt to the changed threat but rather, how. When the threat was primarily light infantry operating in the jungles of South East Asia, attack helicopters responded by providing close air support to ground maneuver forces in the form of rockets, 40mm grenades, and 20mm cannon. When the primary threat shifted to tanks on the plains of Europe, the U.S. Army responded by developing long range tank killing helicopters that could strike deep, fight at night, and survive in an intense ADA environment using electronic countermeasures and stand-off. With a new asymmetric threat operating in and around urban strong points, how will the U.S. Army employ its attack helicopters?

Attack Aviation MOUT Doctrine

The most logical place to look for the answer to this question would be existing doctrine. It is, after all, more than ten years after the fall of the Soviet Union and the end of the Gulf War. Surprisingly, despite the U.S. Army's acknowledgement of the new threat environment, very little has been formally done within the attack helicopter community to deal with the change. There is no doctrinal manual for Army Aviation operations in urban terrain. There is a draft joint manual, FM 1-130, *Aviation Urban Operations: Multiservice Procedures for Aviation Urban Operations*, produced by the Air Land Sea Applications Center.¹⁰¹ Although this manual goes a long way toward acknowledging the severity of the threat and the difficulties of conducting aviation

¹⁰⁰ Department of the Army, *Field Manual 100-5, 1976 edition*, 14-1, 14-19.

¹⁰¹ Air Land Sea Applications Center, *FM 1-130, Aviation Urban Operations: Multiservice Procedures for Aviation Urban Operations* (Signature Draft: Mar 00), I-1.

operations on urban terrain, it does very little to provide solutions. There are only two pages dedicated specifically to the conduct of rotary winged operations in cities.¹⁰²

Sadly, the most comprehensive information on conducting attack aviation operations on urban terrain is hidden in an infantry doctrinal manual, FM 90-10-1, *Infantrymen's Guide to Combat in Built up Areas*,¹⁰³ which is undoubtedly unknown to most aviation officers. The Infantry manual states that the commander on the ground is responsible for insuring the smooth integration of attack helicopters into the combined arms team.¹⁰⁴ This technique is a return to the successful employment methods the Army used in Vietnam but is, regrettably, not reflected anywhere in Aviation doctrine.

FM 1-112, *Attack Helicopter Operations*, published in 1997, long after the end of the Cold War, makes very little mention of MOUT operations. The Attack Helicopter capstone doctrinal manual indicates that attack helicopters operate best over, rolling terrain (like Europe), which is also favored by armor/mech forces. Attack helicopters, it cautions, are least well employed against well camouflaged, stationary forces in prepared positions (read MOUT).¹⁰⁵ The gunnery manual, FM 1-140, which guides the gunnery training for all attack helicopter battalions in the conventional Army does not discuss diving fire and only minimally includes running fire as an engagement technique.¹⁰⁶ Running and diving fire provide maximum survivability and accuracy for close in engagements. Army aviation learned these valuable lessons in Vietnam when helicopters were a CAS platform.

¹⁰² Air Land Sea Applications Center, *FM 1-130*, III-14.

¹⁰³ Department of the Army, *Field Manual 90-10-1, An Infantryman's Guide to Combat Operations in Urban Terrain* (Washington D.C.: U.S. Government Printing Office, May 1993), L-1.

¹⁰⁴ Department of the Army, *Field Manual 90-10-1*, L-1.

¹⁰⁵ Department of the Army, *Field Manual 1-112, Attack Helicopter Operations* (Washington, D.C.: U.S. Government Printing Office, Oct, 1997), 3-18, 19.

¹⁰⁶ Department of the Army, *Field Manual 1-140, Helicopter Gunnery* (Washington, D.C.: U.S.

Unfortunately, the lessons learned in Vietnam are all but lost to today's attack helicopter community which is virtually devoid of Vietnam veterans and whose doctrine has left those lessons behind. There seems to be a prevalent attitude that including tactics, techniques, and procedures learned in Vietnam in modern helicopter doctrine would somehow be regressive and counterproductive. This prejudice appears to be cultural in the attack helicopter community and is not based on facts or analysis of modern threats. The Army Aviation community has been slow to relinquish the glory days of Desert Storm when conducting analysis of future threats. This reluctance has resulted in a dangerous lack of preparation in our conventional forces for a fight that we recently faced in the streets of Somalia's capital city and will almost certainly face in some far away metropolis in the near future.

CASE STUDIES IN MOUT

SOMALIA

The U.S. involvement in Somalia is a perfect example of the type of conflicts the United States can expect to face in the near future. Our Somalia experience took place in three phases. First was an airlift to provide humanitarian food relief and medical supplies to a multitude of sick and starving people. Americans were surprised when their acts of kindness were met with resistance from factions of the Somali people which led to the second phase of the operation, an intervention force providing security for the relief efforts. This security force met with increasing resistance from the organized tribal factions of Somali society. This increased resistance and instability in Somali society led to the final phase, the first Peace Enforcement operation in the history of the United Nations.¹⁰⁷ This peace enforcement operation led to a significant battle in the streets of Mogadishu, which left nineteen American soldiers and hundreds of Somali gunmen and civilians dead in the dusty streets of Mogadishu. How did the world's only super power manage to suffer such a blow from a poorly organized, trained and equipped opponent?

The United Nations involvement in Somalia began in January 1992 when the United Nations adopted Security Resolution 733, which called for an arms embargo, UN humanitarian assistance for the starving people, and a cease-fire. U.S. involvement was largely limited to an Air Force operation to fly food into neighboring Kenya.¹⁰⁸ The United Nations took very little actual action on this resolution. In a subsequent resolution, 751, passed on 24 April 1992, the UN created the United Nations Somalia

¹⁰⁷ Kenneth Allard, "Somalia Operations: Lessons Learned," *Institute for National Strategic Studies*, [ONLINE], <http://www.ndu.edu/inss/books/allardcont.html>: Accessed 11/05/00. 2.

¹⁰⁸ William G. Rosenau, "Every Room is a New Battle: The Lessons of Modern Urban Warfare,"

Mission (UNOSOM), which sent 50 military observers to monitor the cease-fire agreed to by warring Somali factions.¹⁰⁹

The UN effort was largely ineffective leaving more than 500,000 Somalis dead from famine by the fall of 1992. In December of 1992 hunger and violence were still on the rise and it was clear to U.S. President George Bush that military intervention would be required to prevent calamity. He authorized U.S. forces to deploy to protect relief workers in an operation called Restore Hope.¹¹⁰ The U.N. sanctioned the operation in the form of a U.S. led United Task Force (UNITAF) aimed at securing the ports, key installations, food distribution points and protecting international relief shipments. This operation was conceived as limited in scale with a rapid hand off to United Nations forces once stability was established.¹¹¹ Operation Restore Hope was a humanitarian success. By March of 1993 the mass starvation had been thwarted and security in the country was significantly improved.¹¹²

Departure from Somalia proved to be problematic for U.S. policy makers and armed forces. In January of 1993 U.S. Special Envoy Robert Oakley declared that March should be the deadline for American withdrawal. U.S. troop strength was reduced from 1400 to its maximum of 26,000 at the beginning of Operation Restore Hope.¹¹³ In May of 1993 the UN mandate was broadened to include peace enforcement missions under Title VII of the U.N charter. This empowered U.N. forces in Somalia to use force as necessary in missions such as nation assistance, disarmament of warring factions, and

Studies in Conflict & Terrorism Vol 20, Issue 4 (Oct-Dec 1997), 7.

¹⁰⁹ Gerard Prunier, "Somalia: Civil War, Intervention and Withdrawal 1990-1995," *WRITENET Country Papers*, [ONLINE], <http://www.unhcr.ch/refworld/country/writenet/wrisom.htm>: Accessed 11/05/00. 1.

¹¹⁰ Federation of American Scientist, "Operation Restore Hope." 1.

¹¹¹ Rosenau, "Every Room Is a New Battle," 2.

¹¹² Federation of American Scientist, "Operation Restore Hope." 2.

of course, securing and distributing relief shipments. This transformation to the U.N. led UNOSOM II went largely unnoticed by the American public who still considered their involvement as completely humanitarian in nature. The U.S. military, however, began to play a prominent role in peace enforcement operations as part of what the U.S. called Operation Continue Hope.¹¹⁴

The rising threat to U.N. forces was evident after a June 5, 1993 attack on Pakistani peacekeepers. The U.N. Security Council issued resolution 837 that authorized U.N. forces to apprehend clan leader Mahammed Farah Aidid, whom they held responsible for the Pakistani attack and generally for contributing to instability in Mogadishu.¹¹⁵ After two U.S. marines were killed and seven more were wounded in remote control land mine incidents, U.S. President William J. Clinton ordered the deployment of a special operations task force to join in the hunt for Aidid. Task Force Ranger was an elite force of highly trained special operations soldiers under the direct command of Maj. Gen William F. Garrison who did not have to answer to the UNOSOM II chain of command.¹¹⁶

Mogadishu, the capital and largest city in Somalia, had become the center of conflict. Typical of the developing world, it is a densely packed collection of poorly constructed, unreinforced concrete buildings. The bulk of the city consisted of very small city blocks with confusing streets. Concrete walls in varying degrees of decay surrounded compounds around houses. Simple mortar attacks were libel to cause

¹¹³ Prunier, "Somalia". 5.

¹¹⁴ Federation of American Scientist, "Operation Continue Hope," *Federation of American Scientist: Military Analysis Network*, [ONLINE], http://www.fas.org/man/dod-101/ops/continue_hope.htm: Accessed 11/05/00. 1.

¹¹⁵ Rosenau, "Every Room Is a New Battle," 4.

¹¹⁶ Frank H. Akers, and George B. Singleton, *A Case Study Examining the Application of Advanced Technologies in Modern Urban Warfare* (Oak Ridge, TN: National Security Program Office,

buildings to collapse. Normally home to 500,000 people, by 1992 Mogadishu had swollen to 1.5 million by refugees.

This city was Aidid's home turf and his clan controlled much of territory with a rag tag unconventional army of drugged, untrained, ununiformed, but well armed irregulars. Men and women under Aidid's control could be relied upon to pick up a weapon at a moments notice and carry out raids, ambushes, or other operations at Aidid's behest.¹¹⁷ While the U.S. public seemed self satisfied with their humanitarian "peace" operation to save the starving people of an East African nation that most of them could not identify on a map, the U.S military was about to go to war with a war lord and thousands of his depraved followers.¹¹⁸

Mark Bowden's book, *Black Hawk Down – A Story of Modern War*, describes in detail the tactics employed by Task Force Ranger to execute daring raids to capture key Aidid lieutenants hidden in Mogadishu's densely populated urban sprawl. The assaults relied on superior training, detailed rehearsals, and swift execution that started and terminated before the Somalis could react in an effective manner.¹¹⁹ On 3 October 1993 the Rangers began what they believed would be their seventh flawless raid. They were confident in their ability to operate in the difficult environment and they knew they were having a significant impact in Aidid's command structure.¹²⁰

As TF Ranger helicopters descended on the Bakara market, the heart of Aidid country, they were not overly concerned about the fact that is raid was taking place in daylight hours and directly under the nose of most of Aidid's clansman. They were the

Feb, 2000). 4.

¹¹⁷ Rosenau, "Every Room Is a New Battle," 8.

¹¹⁸ Rosenau, "Every Room Is a New Battle," 7.

¹¹⁹ Mark Bowden, *Black Hawk Down* (Philadelphia: Philadelphia Enquirer, 1997).

best soldiers of the most powerful army in the world. What could go wrong? The mission began without significant incident. The mission was to capture two of Aidid's top lieutenants. Helicopters hovered over the target building allowing blocking forces to rope down to perimeter positions while the assault force searched the building for target personnel. While the assault force gathered up 24 Somali suspects, the blocking force was coming under much heavier fire than normal. The Somalis had been unusually quick to react to the Ranger attack.¹²¹

The MH-60 Black Hawks that had transported the Rangers to the target building were hovering outside the perimeter providing supporting fires with their door guns. This slow and low flight profile left them extremely vulnerable to uncharacteristically disciplined fires from the Somalis. With concentrated RPG fires the Somali gunmen were able to shoot down one of the Black Hawks before the Rangers could finish loading on their ground escape convoy. The Crash site was a mere three blocks from the target building and TF Ranger had a combat search and rescue (CSAR) team on stand by for such an emergency. Under withering fire, a six man element from one of the blocking positions moved to the crash sight in time to see the CSAR helicopter suffer damage from an RPG hit which nearly brought it down.

The situation worsened when Somalis were successful in hitting two more MH-60s bringing one of them down less than a mile from the original crash site. Task Force Ranger did not have a CSAR plan for more than one aircraft. The Somalis were beginning to break apart the American plan. In spite of a heroic defense, the Somali mob

¹²⁰ Akers, *A Case Study Examining the Application of*. 6.

¹²¹ The U.S. Army Ranger Association, "Somalia History," *Somalia Ranger Association*, [ONLINE], <http://www.ranger.org/somalia.htm> Accessed 11/05/00. 2.

on the ground at the second crash sight killed everyone on board except one of the pilots who was taken prisoner.¹²²

The Rangers loaded their captured Somalis on the ground convoy and sent them to base while the bulk of the blocking and assault force fought their way to the first crash site. By this time it seemed that every Somali in the market area had retrieved a weapon and were engaging TF Ranger from every direction. The Rangers were pinned down and took up defensive positions in the vicinity of the crashed Black Hawk where they would continue to fight off continuous Somali assaults into the evening and throughout the night.

The Rangers were continuously supported by deadly accurate rocket and minigun fire from small AH-6 attack helicopters flown by special operations aviators assigned to Task Force Ranger. These “little bird” special operations pilots were especially trained to deliver helicopter close air support to Rangers and other special operations soldiers. Mark Bowden’s gripping account of this firefight in *Black Hawk Down* details the effectiveness of these aircraft in suppressing the Somali assaults and securing the small Ranger perimeter by using “high energy” tactics including diving and running fire. The special operations community leads the U.S. Army in training and employing attack aircraft in close support of ground maneuver elements.

Gen Garrison was forced to call on the quick reaction force (QRF) of the 10th Mountain Division to put together a rescue convoy to extract the pinned down rangers. Having not been alerted prior to the raid and in need of mechanized vehicles that the U.S. force did not bring, the QRF was delayed while organizing multinational support. Ultimately, at 0545 a force of 10th Mountain soldiers, Rangers, SEALs, and Malaysian

¹²² The Army Ranger Association, "Somalia History". 3.

armored personnel carriers under the cover of attack helicopters moved out to rescue the trapped Rangers. With AH-6 and AH-1 gunships raking the streets ahead of the convoy with fire, they reached the Rangers at 0630. Medical personnel treated the wounded and the convoy evacuated everyone to the hospital or the airfield. This ended one of the bloodiest and costliest firefights the U.S. Army had faced since the Vietnam War.¹²³

Task Force Ranger lost 16 killed and 83 wounded. The 10th Mountain had one killed and numerous wounded.¹²⁴ According to U.S., U.N. and SNA estimates, 312 Somalis died and 814 were wounded¹²⁵

Attack helicopters played a key fire support role in this deadly urban conflict. Special operations helicopters demonstrated how effectively helicopters could be used as a fire support platform in a complex urban environment. The key to success for these helicopters was the dedicated training that special operations aviators and soldiers receive in the use of helicopters for fire support. Unfortunately, conventional aviation doctrine and training do not include close air support techniques. Conventional attack aviation units placed in MOUT environments are forced to execute “on the job training” in these vital skills.

Task Force Ranger did not have the only attack helicopters in Somalia. The 10th Mountain division brought an aviation task force to support them in their UNOSOM II missions. Task Force Raven was a task organized aviation unit with a total of 52 aircraft including attack, scout, lift, and MEDEVAC assets. They flew over 6000 missions over the streets of Mogadishu. Twelve AH-1 Cobras made up the attack helicopter force.¹²⁶

¹²³ The Army Ranger Association, "Somalia History". 3.

¹²⁴ The Army Ranger Association, "Somalia History". 3.

¹²⁵ Rosenau, "Every Room Is a New Battle," 8

¹²⁶ Lee R. Gore, *After Action Report, Task Force Raven (2-25 ATKBN): Operation Continue*

The lessons learned by this aviation task force are particularly useful for the rest of the conventional aviation units in the U.S. Army. Fortunately, LTC R. Lee Gore, commander of Task Force Raven ordered a detailed after action review upon the unit's return to Fort Drum, New York. The following lessons learned about attack aviation in MOUT are instructive.

Flight Profile

It is important to make flight profile decisions based on threat rather than preconceived doctrinal models. The U.S. Army trains helicopter pilots to fly very close to the ground and obstacles in order to minimize exposure to sophisticated ADA weapons systems. This mode of flight is extremely dangerous in MOUT environments due to buildings, wires, and other man made obstacles. The low-level flight profile also reduces fields of observation and fire while placing helicopters well within range of virtually all weapons (small arms, machine guns, and RPG) that the Somalis have. Aircrews from 2-25 ATKBN soon realized that it was much safer and more effective to fly at approximately 1000 feet since the Somalis had very little in the way of modern ADA. Flying at higher altitude also helped pilots with precision rockets and gun engagements because they could employ the almost forgotten technique of “diving fire” when performing close air support.¹²⁷

Unity of Command/Command and Control

Attack helicopters must be in direct communication with the ground element in contact. It is critical to put talented LNOs in the TOC of the supported units at the lowest

Hope, Somalia 27 Aug 93 - 9 Jan 94 (Fort Drum, NY: Unpublished, May, 1994), intro
¹²⁷ Gore, *After Action Report*, 3-6.

level possible. Where LNOs are not available, soldiers in the ground brigades must be trained on planning for and employing helicopter fire support. Although it was clear that the QRF was in command of the joint (2-14 IN, MALBAT, PAKI assets), it was not at all clear who was in command of all the air assets flying feverishly over Task Force Ranger and the relief column. Aviators did not know who was working for who, who was clearing fires, or who controlled what airspace. Pilots were forced to working entirely on their own initiative and may not have been as effective as possible.¹²⁸

Helicopter Close Air Support

Aerial fire support - In MOUT aerial fire support is almost always danger close to friendly forces. Helicopters are a preferred method of fire support because of their ability (with training) to achieve precise fires with minimal collateral damage. They also offer the added advantage of a wide variety of ordinance to choose from depending on the situation. Firing danger close to friendly forces causes several unique challenges for helicopter crews and ground units that have not conducted extensive training on this type of engagement. Crews must be able to accurately identify both friend and foe. Detailed coordination with soldiers on the ground is the key to success. Attack helicopter pilots in Task Force 160th are the only aviators in the Army that train for this mission on a routine basis and their expertise is credited with saving many of the Rangers on the ground on 3 October. Infantrymen on the ground with Task Force Ranger were also trained in the techniques required to control aviation fires. The training conducted within the Special

¹²⁸ Gore, *After Action Report*, 3-7.

Operations community on the use of attack helicopters for fire support is a model for the rest of the Army to prepare for future challenges.¹²⁹

¹²⁹ Gore, *After Action Report*, 3-12.

CHECHNYA

The Russian experience battling in the city of Grozny during their intervention in the Republic of Chechnya is an excellent example of large-scale military operations in urban terrain. This example is particularly significant for U.S. military study because it represents a case where a relatively sophisticated and technologically advanced force (Russian military) faced, and were defeated by, a small, relatively primitive, irregular force of Chechen rebels. The U.S. Military must learn from this example to avoid similar failure in the future.¹³⁰

The collapse of the Soviet Union brought about instability in many of the former Soviet territories. The Russian Republic of Chechnya is located in the southeastern portion of Russia near the oil rich northwestern end of the Caspian Sea.¹³¹ Pro-independence factions in Chechnya began organizing to free the Republic from Russian control almost immediately after the breakup of the Soviet Union. Two days after the failed August 1991 Russian coup, opposition elements of the Russian Republic of Chechnya launched a revolt of their own. On 6 September 1991 the new Chechen regime declared its independence from Russia.¹³² This agitation led to a brutal civil war with pro-Russian factions of Chechen society. To support their interest, Russia committed troops to Chechnya on 11 December 1994. The Russian decision to employ the Army was driven by several goals; to remove Chechen President Dzhokar Dudayev from power,

¹³⁰ Mark. Sumner, "The Case for Joint MOUT doctrine," *The MOUT Homepage*, [ONLINE], <file://A:\jointmout1.htm> Accessed 11/29/99, 4.

¹³¹ Timothy L. Thomas, "The Battle of Grozny: Deadly Classroom for Urban Combat," *Foreign Military Studies Office*, [ONLINE], <http://call.army.mil/call/fmso/fmsopubs/issues/battle.htm> Accessed 11/05/00: 2.

¹³² Brian A. Keller, "Intelligence Support to Military Operations on Urban Terrain: Lessons Learned From the Battle of Grozny," (Masters of Military Art and Science thesis, U.S. Army War College, Carlisle Barracks PA, 2000), 8.

crush the Chechen claims of independence and restore the Russian Federation's political and economic control of the region.¹³³ Russian officials and military officers felt that this would be a short campaign with limited resistance in light of Russian military superiority in all aspects. They were surprised to meet with very stiff and determined resistance in a bitter, costly, and protracted struggle that resulted in Russian humiliation and defeat.¹³⁴

Grozny, the capital of Chechnya, embodies many of the most common characteristics of modern urban areas. It is a city of 490,000 residents (in 1994) with numerous multistory buildings. Grozny became a large industrial metropolis in the 1920s with its economy based on the oil industry. Author Anotol Lieven visited the city before the war and described it as, "a sprawling place with huge suburbs of one story houses and enormous industrial areas, altogether covering more than 100 square miles."¹³⁵ This sprawling metropolis would become the primary battleground between a former "Super Power" and a rag tag group of irregulars.

Russians took it for granted that the Chechens would fold in the face of obvious Russian military superiority. The Russian commander, General Pavel Grachev, boldly claimed that he would seize the city in two hours with a single parachute regiment. When the Russians drove tanks and into Grozny in march formation as a show of force they immediately regretted their lack of infantry support and general preparation.¹³⁶ The

¹³³ Raymond C. Finch, "Why the Russian Military Failed in Chechnya," *Foreign Military Studies Office*, [online], <http://call.army.mil/call/fmso/fmsopubs/issues.yrusfail/yrusfail.htm>: Accessed 11/05/00: 2.

¹³⁴ Department of the Navy, *Marine Corps Warfighting Publication (MCWP) 3-35.3, Military Operations on Urbanized Terrain (MOUT)* (Washington D.C.: U.S. Government Printing Office, April 1998), J-1.

¹³⁵ Brian A. Keller, "Intelligence Support to Military Operations on Urban Terrain: Lessons Learned From the Battle of Grozny," (Masters of Military Art and Science thesis, U.S. Army War College, Carlisle Barracks PA, 2000), 5.

¹³⁶ Lester W. Grau, "Changing Russian Urban Tactics: The Aftermath of the Battle for Grozny," *Foreign Military Studies Office*, [ONLINE], <http://call.army.mil/call/fmso/fmsopubs/issues.grozny.htm>: Accessed 11/5/00, 2.

first Russian unit to enter Grozny on New Year's Eve was the 1st Battalion of the 131st "Maikop" Brigade, which consisted of some 1000 soldiers, 26 tanks and 120 armored personnel carriers. By the 3rd of January 1995 the Russians had lost nearly 800 of the original men, 20 of the tanks and 102 of the armored personnel carriers. The Russians were stunned.

The Russian response to this initial setback was to indiscriminately bombard the city for the next 20 days and nights with air attacks and artillery. Artillery rounds fell at a rate as high as 4000 per hour. On 20 January the Russians finally secured what remained of the city's center and raised the Russian flag over the Chechen Presidential palace.¹³⁷

Chechen Rebels were finally forced to abandon the city in February of 1995 by they did not give up the fight. Over the next year and a half they staged a variety of terrorist and unconventional attacks in and around Grozny. These attacks withered Russian resolve, morale, and the Russian peoples support for the war. In August of 1996 Chechen rebels were successful in recapturing the center of the city. They doggedly fought off repeated Russian counter attacks in some of the most vicious fighting of the war. Ultimately, the "mighty" Russian Army was ordered to leave the rubble city to the Chechens and return home, embarrassed and beaten.¹³⁸ After two years of combat the Chechen War resulted in at least 30,000 dead Chechens and 5000 dead Russian soldiers. The war cost approximately 5.5 billion dollars in economic damage.¹³⁹ The fight proved to be a significant waste of men and treasure without achieving any of the political goals that led the Russians to war.

¹³⁷ Thomas, "The Battle of Grozny." 2

¹³⁸ Rosenau, "Every Room Is a New Battle," 11.

¹³⁹ Emil Pain, "The Second Chechen War: The Information Component," *Military Review*, July Aug 2000, 59.

Among the many technologically superior weapons systems the Russians brought to bear unsuccessfully against the Chechens were aircraft. Initial deployment of aircraft included a total of 140 combat planes (SU-25, SU-22m, and SU 24), and 55 helicopters (Mi-24, Mi-8, and Mi-6) at the beginning of the conflict. By March 1995 they increased the number of helicopters to 105, including 52 Mi-24 Hinds.¹⁴⁰

One military analyst writing in the Russian Air Journal *Krylya Rodiny* noted that helicopter crews faced more danger than most. Weather, terrain and threat forced them to fly extremely low (similar to U.S. tactics) and they often returned home with bullet holes in the cockpit windscreen. Five helicopters (two Mi-8s and three Mi-24s) were lost to hostile fire in the first three months of the conflict and it only got worse as time went on. At the end of the war statistics indicated that every 10th helicopter participating in the campaign was destroyed and every 4th was damaged.¹⁴¹

The contribution that Russian air assets, fixed and rotary wing, were able to make was far below expectations. Russian pilots had difficulty with weather, terrain, obstacles, target identification, training, and logistics. Russian pilots did develop improved methods of identifying targets and choosing the right weapons mix, but this did little to limit civilian casualties.¹⁴² American analysts have carefully reviewed the Russian experience in Grozny and taken away several key lessons concerning attack aviation fighting in urban environments against a determined and cunning enemy. Some of these lessons, highlighted below, mirror the American experience in Somalia and are particularly relevant to the U.S. Army attack helicopter community.

¹⁴⁰ Timothy L. Thomas, "Air Operations in Low Intensity Conflict: The Case of Chechnya," *Airpower Journal* Winter, Available online http://www.ama.com/article/thomas_mili.html. Accessed 06/26/00 (1997), 2.

¹⁴¹ Thomas, "Air Operations in Low Intensity Conflict." 5.

Flight Environment and Training

Bad weather often kept fixed wing close air support systems on the ground when helicopters could still fly and provide close fire support.¹⁴³ The flying was tremendously difficult additionally, due to manmade obstacles (buildings, wires, towers). These difficulties were magnified when flying at night when city lights and enemy controlled spotlights could affect pilot night vision devices. The Russian pilots were not well trained for this demanding flight profile. Their lack of training coupled with the constant threat of enemy fire from virtually any building led to tremendous stress and reduced effectiveness in the Russian crews. The only way to overcome this problem is to train realistically in similarly challenging conditions prior to sending crews into such a demanding environment in combat.

Threat

The Russians faced a thinking and adaptable enemy that did not cower at the first sight of tanks or attack helicopters. The Chechens, many of whom served in the Russian Army devised two very effective ways to counter the Russian attack helicopter threat. The first was to use all available systems to ambush unsuspecting aircraft. Chechen air defense systems included ZU-23-3 mobile antiaircraft launchers mounted on KamAZ chassis and DShK machine guns mounted on Cherokee Jeeps and Toyota off-road vehicles. Additionally they had Shilka ZSU 23/4 antiaircraft guns and Strela - 3, Igla-1 and Stinger surface to air missiles (SAM) in limited quantities. The Chechens also used large quantities of RPG-7 conventional anti-tank grenade launchers against low flying

¹⁴² Thomas, "Air Operations in Low Intensity Conflict." 3.

¹⁴³ Thomas, "Air Operations in Low Intensity Conflict." 12.

aircraft in a manner reminiscent of the Somalis.¹⁴⁴ They carefully planned and executed ambushes of Russian helicopters from rooftops and windows of buildings not completely controlled by Russian soldiers.

The Chechens were often able to defeat the vastly superior fire support, air and ground, of the Russians by "hugging" as close as possible to Russian units. This forced Russian commanders to risk fratricide if they wanted to employ heavy fire support. The resulting fratricides were devastating to Russian morale.¹⁴⁵ Russian flight crews were challenged with developing effective means of making close-in engagements while avoiding fratricide. This proved to be difficult given the minimal training in this type of engagement prior to this conflict.

Engagement Techniques

Ultimately the Russian solution to the difficult problem of urban warfare was to take the WWII approach and level the city using artillery and aviation strikes and then slowly picking through the rubble to weed out the few surviving rebels and civilians. The civilian to rebel death ratio was nearly eight to one when using this technique, according to former security council chief Alexander Lebed.¹⁴⁶ Lester Grau and Jacob Kipp point out in *Military Review* that "the destruction of a nation's own city suggest an utter disconnect between the political objective - ending armed conflict and reconciliation - and the military means, a war of annihilation."¹⁴⁷ Destroying a city to save it will often

¹⁴⁴ Thomas, "Air Operations in Low Intensity Conflict." 2.

¹⁴⁵ Mark. Sumner, "The Case for Joint MOUT doctrine," *The MOUT Homepage*, [ONLINE], <file:///A:/jointmout1.htm> Accessed 11/29/99, 4.

¹⁴⁶ Thomas, "Air Operations in Low Intensity Conflict." 3.

¹⁴⁷ Lester W. Grau, Jacob W. Kipp, "Urban Combat: Confronting The Specter," *Military Review* Vol 79, Issue 4: 5.

not be an option. Fire support will be constrained for political, economic, public relations, humanitarian, and even military reasons.

The second method, far more palatable to American sensibilities and certainly less likely to make enemies of the civilian populace, was to use precision guided weapons and to fire from close range flying only over buildings and terrain that were controlled by Russian ground soldiers. Engagements were made using close coordination with Russian forward air controllers (FACs) on the ground. Precision guided weapons were particularly effective against priority targets such as bridges, road intersections, and Chechen strong points and snipers in the upper floors of buildings¹⁴⁸

Ground Coordination

Russian forward air controllers (FAC) were not well prepared for their jobs. They did not know how to effectively integrate air assets into the ground scheme of maneuver. This was a limiting factor in the effective employment of helicopters as close air support for Russian ground troops. Complicated by the problem of Chechens “hugging” the Russians and targeting FACs and other soldiers with radios, the Russians experienced difficulty coordinating CAS.¹⁴⁹ The U.S. Army has similar difficulty employing attack helicopters as close air support assets because they do not have soldiers trained in controlling air assets in conventional ground maneuver battalions.

¹⁴⁸ Department of the Navy, *Marine Corps Warfighting Publication (MCWP) 3-35.3, Military Operations on Urbanized Terrain (MOUT)* (Washington D.C.: U.S. Government Printing Office, April 1998), J-7.

¹⁴⁹ Thomas, “Air Operations in Low Intensity Conflict.” 5.

SUMMARY AND RECOMMENDATIONS

Attack helicopters are the direct result of the struggle between the Army and the Air Force over close air support. If the Army had not felt abandoned by the Air Force in the post WWII era, then there would have been no impetus for the Army to create its own close air support systems. The Vietnam War demonstrated the effectiveness of rotary wing aircraft in the close air support role.

Ironically, in the post Vietnam era, Army Aviation followed the Air Force lead and moved away from the close fight. The threat of massive Soviet armor attacks on the plains of Europe forced Army Attack Aviation to focus on striking deep to kill large numbers of tanks, armored vehicles, and artillery.

The collapse of the Soviet Union and the U.S. led coalition victory in Desert Storm created a new threat environment. The U.S. Army's qualitative, and often quantitative, advantage in modern weapons systems significantly reduces the likelihood that potential adversaries will seek conventional battle in open terrain. The new threats are likely to be asymmetric in nature. They will seek to eliminate the U.S. Army's advantages by drawing them into urban or otherwise restricted terrain. The rapid urbanization of the earth's population indicates that urban warfare is particularly imminent. The MOUT environment poses significant and unique challenges for all branches of the U.S. Army including Aviation. Army Aviation must recognize this shift in threat in order to develop the doctrine, training, and aircraft required to fight and win in the future.

Recent case studies in Mogadishu and Chechnya demonstrate that attack helicopters are most effective in the MOUT environment when they are used in close

support of the Infantry and Armor. A major factor in this increased effectiveness is that helicopter survivability is dramatically higher when they are operating over buildings and terrain that are controlled by friendly forces. Helicopters provide ground forces with a level of flexibility, responsiveness, reliability, and precision that artillery and fixed wing CAS can rarely match.

Use of attack helicopters in the close fight does present a few problems for Army Aviation. Most significant among these is training. Operating in close requires a great deal of training in air-ground coordination, precision gunnery, and high energy tactics. It would be impossible for every attack battalion in the U.S. Army to become proficient in these skills while maintaining a credible deep attack capability. The solution is to divide the mission and training load amongst existing attack battalions.

The unique speed, mobility, and firepower of attack helicopters dictates that they will always be a critical asset for shaping attacks throughout the depth of the battlefield. Attack battalions have proven in combat that Army Aviation can fight effectively as an independent maneuver arm. To ensure the Army retains this critical capability, attack battalions at the corps level should continue to focus on traditional battalion and company sized attacks on massed enemy formations or high payoff targets to shape the corps commander's battlefield.

At the division level, attack battalions should shift their training focus to supporting ground brigades in the close fight. This training should include modified gunnery tables focusing on running and diving fire at close range targets with strict accuracy standards. Additionally, attack battalions will need to significantly increase the amount of combined arms training they conduct. Infantry and Armor units will need to

work with Aviation to develop effective helicopter fire support request formats and target handovers. Ground units will have to train soldiers on techniques for controlling air attacks. Attack battalion assets will be more likely to work in small groups of two to three aircraft. Aviation commanders will have to decentralize control and consider OPCON relationships with ground units as an option to ensure unity of command and effort.

Before divisional attack battalions can conduct effective training for conducting close air support in MOUT or any environment, Army Aviation will need to develop appropriate doctrine. Current Army Aviation doctrine is woefully inadequate in its approach to fighting in MOUT and does not address close air support as a mission performed by Army helicopters. Army Attack Aviation close air support into its doctrine if units are going to be effective in this challenging role.

As Gen. DePuy taught in the mid 1970s, weapons system procurement should be based on needs determined in doctrine development and threat analysis. Since the major threats to the U.S. have changed in the post Cold War era and our doctrine and force structure are undergoing review based on this threat, we should review our procurement efforts to make sure they comply with the current needs. The AH-64D Longbow and the RAH-66 Comanche were both conceived and initially designed based on Cold War threats. The Longbow is potentially the greatest tank killer in the history of warfare, capable of deep attacks with fire and forget precision in a wide variety of weather and any illumination or battlefield obscuration conditions. The Comanche is a stealth technology helicopter designed especially to penetrate deep in a high ADA threat environment to provide reconnaissance and limited attack capability. With a threat that is

unlikely to field large tank armies that operate in large geographic areas, large numbers of expensive weapons systems that are optimized to fight deep against tank formations may be unnecessary and detract from fielding systems that are needed.

Some Chechnya analysts have suggested that attack helicopters have a limited role in low intensity conflict (LIC) and particularly MOUT. Fast moving fixed wing aircraft have more survivability, stealth, surprise, and versatility. Fast movers are far less vulnerable to air ambushes that are alerted to oncoming helicopters by the tremendous noise. Unmanned reconnaissance aircraft can fly low and provide the information that helicopters are often used for.¹⁵⁰ Recent case studies indicate that the level of effectiveness attack helicopters have in the MOUT environment is directly proportional to the level of preparedness attack helicopter crews have for operating in the urban environment and in the close fight. The U.S. Army Attack Aviation must develop effective TTPs for close fight employment in MOUT or they may well be viewed as obsolete for the coming fight.

¹⁵⁰ Thomas, "Air Operations in Low Intensity Conflict." 5.

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